5/32

DART AEROSPACE LTD	Work Order:	23761
Description: Tow Ring	Part Number:	D2968-041
Dwg: D2968 Rev. Bt	Qty:	40
4) 04.06.01 (1 04.06.0)		Page 1 of 1

Step	Location	Procedure	βχ	Date	Qty
1	DC	Issue Traveler	AXI-	05.07.06	40
2	MC	Turn blank as per Folio FA047 and Dwg D2968	1.0		
		Material: AISI 4130 Ø 3/4 " Bar			
		(M4130N-R0.750) Identify for D2968-1 Batch: 1915619	trel	adapla	46
3	QC2	Inspect parts as they come off the CNC machine	0.0	, ,	
			THE	05/0/02	40
4	MC	Deburr, no sharp edges	In	05/10/02	40
5	QC8	Second check	}` }^	05/10/02	40
6	MS	Turn blank as per Folio FA049 and Dwg D2968 Material: AISI 4130 3.00" OD x 2.00" ID tubing	\sim		
		(M4130N-T3000W500)	1	, ,	
		identify as D2968-5 Batch: M 15 2 13	5 .6	05/09/30	40
7	QC2	Inspect parts as they come off the CNC machine	10	2/22/20	117
8	MS	Deburr, no sharp edges	17-6	05/09/30 05/09/30	40
9	QC8	Second check		02:04 130	40
10	MV	Machine D2968-1 as per Folio FA047 and Dwg D2968	1	-1 t	
'	1010	Identify as D2968-1	H	05/10/05	40
11	QC2	Inspect parts as they come off the CNC machine	Th.	ostrolos	40
12	MV	Deburr		05/16/05	40
13	QC8	Second check	12/	05/10/05	40
14	MS	Weld D2968-1 & D2968-5 as per Dwg D2968 & QSI 004 using	~		
		4130 welding rod	DV.	0.00	
45	000/5	Identify as D2968-041 Batch: 1/15684	TPA	05.10.13	40
15	QC9/5	Inspect weld	120	05/10/13	40
16	PG	Issue P/O: \&\ \&\ \&\ \\ \\ \\ \\ \\ \\ \\ \\ \\]	e e	ŀ
		Description: D2968-041 to heat treat to ultimate tensile strength			İ
		125ksi as per Dwg D2968	$ I_{I} $	as ilvily	40
17	PG	Conformity sheet required	100	0510-14	10
17	- G	Cad Plate per QQ-P-416F Class I Type II		_	
		Conformity sheet required	u	05.10.14	40
18	RG	Receive and inspect for transit damage	al		
		Ensure conformity sheets are attached	CI	25/11/01	40
19	QC3	Inspect Cad Plate	u,	05/11/02	40.
20	FP	Powder Coat Gloss White (Ref: 4.3.5.2) as per QSI 005 4.3	M	201 11	40
		DO NOT POWDER COAT THREADS		<u> </u>	
21	QC3	Inspect Powder Coat	(,x,	5/11/11	40
22	ST	Identify and Stock	CX	05/1/11	40
23	AC	2 11 1 79 28	<u></u>		40
0.4	- DO	Cost / part 29,7.8 Close W/O 29, 32	745	05-11-21	yv
24	DC	Ulose W/U <pre>ZP, 32</pre>		Telulia	Uλ
Ll		Inspect Level 21	1	סווווכט	179

Rev	Date	Change	Revised By	Approved
ΑS	00:04.25	New issue	EC	
В	02.05.11	Added welding rod batch number	NG	.1
С	03.04.11	Reformat; Incorporated D2968-1/-5	KJ/RF +	de

DELEASED 03.05.26 F

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES							
DATE	STEP	PROCEDURE CHANGE	Ву	By Date		Approval Mfg / Design Mgr	Approval QC Inspector		
						-			
							·		
				····					

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
		Description of NC	Corrective Action Section B			Verification	Annrovol	Annroyal
DATE	STEP	Section A	Initial Design Mgr	Action Description Design Mgr	Sign & Date	Section C	Approval Design Mgr	Approval QC Inspector
		i						

Part No:	PAR #:	Fault Category:	NCR:	Yes No	DQA:	Date: <u>65</u>)/	1)18
NOTE: Date & initial all entries				QA: N/C C	Closed:	Date:	•-

DART AEROSPACE LTD	Work Order:	23761
		D0000 4
Description: Stem	Part Number:	D2968-1
Inspection Dwg: D2968 Rev: B1		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

X First Article Prototype

	<u> </u>	—				
Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
5.040	+/-0.010	5.044	ر ا			
4.020	+0.000/-0.010	4.018	<u></u>			
3.270	+/-0.010	3.267				·
0.470	+/-0.010	0.470				
0.250	+/-0.010	0.247				
0.550	+/-0.010	0.548				
Ø0.750	+/-0.010	\$0.745				
Ø0.625	+/-0.010	Ø0.623		. .		
Ø0.363	+/-0.010	\$ 0.362				
0.250	+0.010/-0.000	251	1			
0.625	+/-0.010	.624	V			
0.150	+/-0.010	149				
2759	40,00,000					
VIII.	4/4/4/11 I					
E NEB	A JAN BAS					
,1/4-28 Major dia	0.243 - 0.249	8.246	<u></u>			
MOW	0.261 - 0.267	0.262				
				 		

Measured by:	me/A	Audited by:	J.L	Prototype Approval:	N/A
Date:	05/40/0/06/105	Date:	10.01.20	Date:	N/A

Rev	Date	Change	Revised by	Approved
Α	04.02.25	New Issue P/O D2968-041	KJ/RF	
В	05.05.26	Dimensions added	KJ/JLM (
	42			7-1.



DART AEROSPACE LTD	Work Order:	23761
`\		
Description: Tow Ring	Part Number:	D2968-5
Inspection Dwg: D2968 Rev: B1		Page 1 of 1

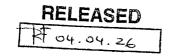
FIRST ARTICLE INSPECTION CHECKLIST

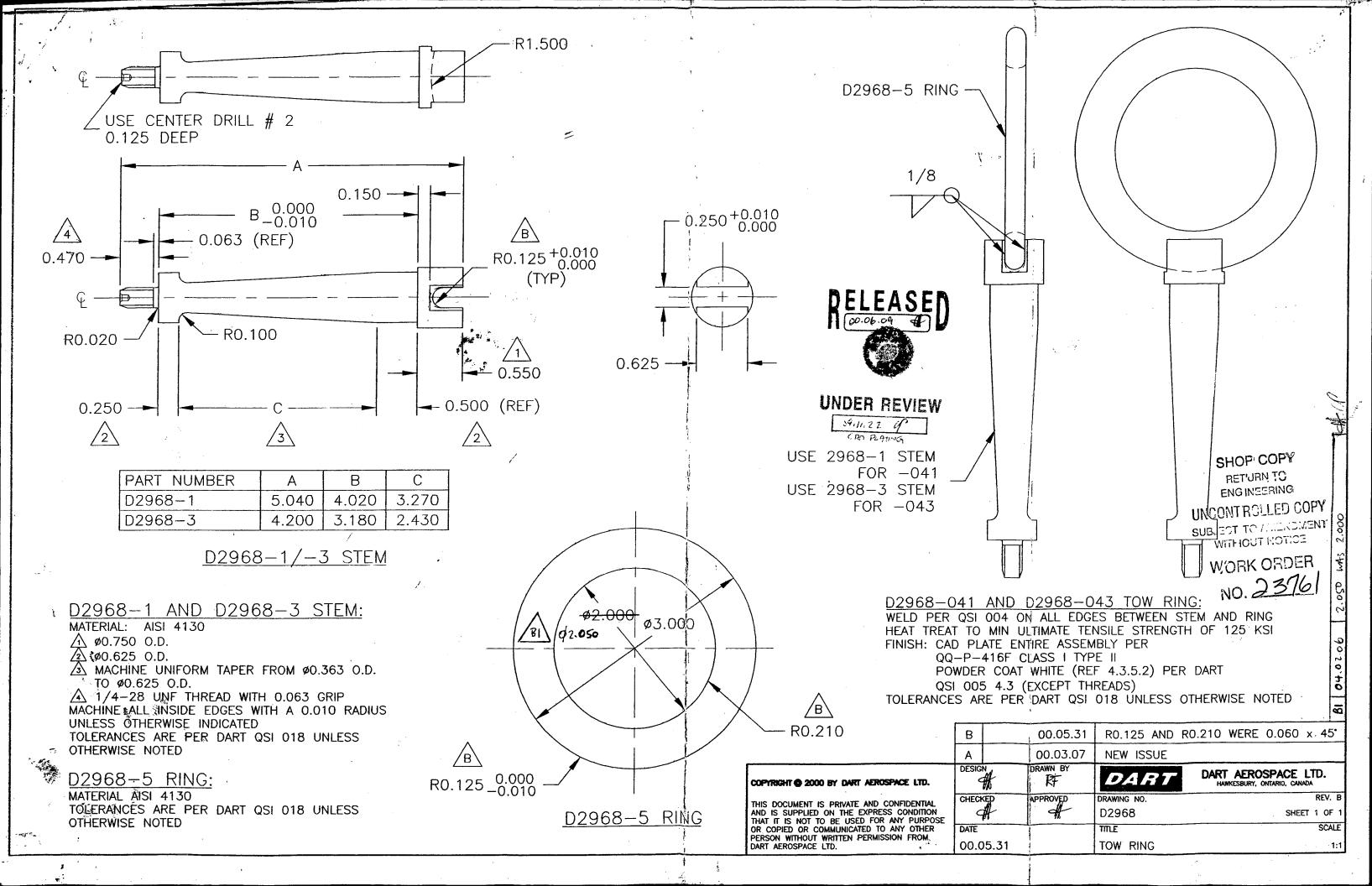
X	First Article		Prototype
---	---------------	--	-----------

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Ø3.000	+/-0.010	Ø 3.995	/			
Ø2.050	+/-0.010	Ø2.048				
0.250	+/-0.010	0-249				
R0.125	+0.000/-0.010	R.0.125				
					,	
			·		7	
					······································	

Measured by: 5.6.	Audited by:	20	Prototype Approval:	N/A
Date: 05/09/30	Date:	05.09.30	Date:	N/A

Rev	Date	Change		Revised by	Approved
A	04.02.25	New Issue	P/O D2968-041/-043	KJ/RF	*





Job Costing Report

Dart Aerospace Ltd. Hawkesbury

Jul 05, 2005 01:35 pm

Work Order No : 0023761

: D2968-041 Project Name Project For : WK532

Work Order Type

Main WO Number

House Part Number : D2968-041 Description : Tow Ring

Manufactured : Yes

Amount Req'd:

40 Amount Done : 0 : 07-05-05 Start Date

Est Finish Date : 08-15-05

Act Finish Date : Drawings Regd : No

Ok for Approval : Approval Rec'd :

Department Code:

Burden Flags : NNNNNN WO Status : Open

Invoice State : Not Invoiced

Invoice Date Invoice Number :

Invoice Amount : 0.00

Order Entry No :

0.00 OE Value :

Est Mark Up : 0.000% Actual Mark Up : 0.000%

\$0 Posted to Finished Goods

		Estimated	Actual	Var. %	Posted	To Post
	==	========		.======		
Material Cost	:	0.00	0.00	0.00	0.00	0.00
Engineering Hours	:	0.00	0.00	0.00		
Engineering Cost	:	0.00	0.00	0.00	0.00	0.00
Production Hours	:	"0.00	0.00	0.00		
Production Cost	:	0.00	0.00	0.00	0.00	0.00
Packaging Hours	:	0.00	0.00	0.00		
Packaging Cost	:	0.00	0.00	0.00	0.00	0.00
OverHead Hours	:	0.00	0.00	0.00		
OverHead Cost	:	0.00	0.00	0.00	0.00	0.00
CNC Hours	:	0.00	0.00	0.00		
CNC	:	0.00	0.00	0.00	0.00	0.00
Misc. Hours	:	0.00	0.00	0.00		
Misc.	:	0.00	0.00	0.00	0.00	0.00
		========	====== <u></u>	======		
Burden	:	0.00	0.00	0.00	•	
A•		==========	========	======		
Total Cost	:	0.00	0.00	0.00		
Mark up	:	0.000	0.000			
Selling Cost	:	0.00	0.00			

Estimated Actual Labour Hrs/Amount Done 0.00 0.00 0.00 Profits/(Loss) 0.00

MANCO DOMPLEX

8895 Crescent 3

Anjou (Québec) H1J 1B6

Tél.: (514) 355-7867 Fax: (514) 355-8750

CERTIFICAT DE CONFORMITÉ CERTIFICATE OF COMPLIANCE



DART APPOSPAGE 470	<u> </u>	122568-041
Client / Customer		# de la pièce / part #
2008817		1 96943
otre # de commande / Your purchase order #		Notre # de bon de livraison / Our packing slip #
Inspecteur / Inspector Lenacel F	4 2 23	Date, équipe / Date, shift 25/10/05
Placage / Plating QQP -416	Class 1	Type II
Quantité totale / Total quantity	40	Quantité inspectée / Inspected quantity
Adhésion / Adhesion	Boans	
Épaisseur / Thickness L.C.D.	H.C.D.	Moy. / aver. O. coos
Coulisses, taches / Leach, spots	Non	Rugosité / Roughness Nou
Quantité approuvée / Approuved quantity	40	Quantité rejetée / Rejected quantity
	Commantaire	es / Comments
-		
lous certifions que les pièces énumérées encontrent les exigences contenues dans	s ci-dessus ont ét ces dessins et/ou	é faites en conformité avec vos dessins et spécifications e spécifications.
Ve herby certify that the parts listed avovere correct to the requirements containes	e have been mad h those drawings	de in accordance with your drawings and specifications and and/or specifications.

Signé au nom de Signed on behalf of

MANCO DOMPLEX

RELEASE NOTE



GST No.: R105468102

OAK 69453-1

BILL TO:

HEAD OFFICE TIS/1 SPEERS ROAD, OAXVILLE, OMFARIO CAMADA 161 2X5 Tel: (905) 827-4171 FAX: (905) 827-7489 2009 WYECROPT ROAD, UNIT B OAKUTUR, ONTAKID CANADA L6I 6J4 Tel. (905) 827-7377 FAX: (905) 827-1560

QUELEC DIVISION 7450 RUE VEGITE STREET, St. LAURENT, QUEEEC CANADA HAS ICE TEL (214) 334-4240 FAR: (514) 334-6269

11/07/2005 MM / DD / YVYY

PAGE : 1

1DARO1

DART AEROSPACE LTD. 1270 ABERDEEN ST.

HANKBSBURY, ON

SHIP TO: DART AEROSPACE LTD. 1270 ABERDEEN ST.

HAMKESBURY, ON

K6A 1K7

K6A 1K7

DATE SHIPPED	SHIP VIA	F.O.B.
11/07/2005		ORIGIN
CUSTOMER P/O No.	.dA BOL.	TERMS
2008861	, ,	COD

		1 1	OTY	DTV	WEST DECLY TO
1	DESCRIPTION	MOU		SHPD	test results
PART No.	DESCHILLION	199	ORD	SHIPD	
					· · · · · · · · · · · · · · · · · · ·

D2741

BLADE

Process Specifications:

Procedure: 4161

HARDENED PER DWG. D2741 REV. B2 TO 152 KSI MINIMUM

MRC 34-40 MATERIAL: 4130

B24136 P/S: 23527 100% HARDNESS TESTED



I hereby certify that the material covered by this release note has been inspected and tested and conforms to all specifications relevant thereto in accordance with the conditions of the contract / or purchase order.

ON BEHALF OF VAC AERO INTERNATIONAL INC.

Authorized Q.C. Inspector

VACUUM BRAZING - HEAT TREATING - SPECIAL PROCESSING - FURNACE EQUIPMENT THRINF CRAPPONENT OVERHAUL - PLASMA AND OTHER COATINGS





Monday, 11/14/2005 7:52:08 AM

User: Linda Lacelle **Process Sheet Drawing Name** : TOW RING : CU-DAR001 Dart Helicopters Services Customer Job Number : 23761 : 10396 **Estimate Number** : D2968041 **Part Number** P.O. Number : D2968 UNDER REVIEW : 11/14/2005 S.O. No. : **Drawing Number** This Issue : NC Project Number Prsht Rev. : B1 : MACHINED PARTS : // Type **Drawing Revision** First Issue Material Previous Run : 11/30/2005 Qty: 40 Um: Each **Due Date** Written By Checked & Approved By : Est:C 03.04.11 Reformat; Incorporated D2968-1/-5 KJ/RF Comment **Additional Product** Job Number: **Machine Or Operation:** Description: Seq. #: 23761A STEM 1.0 Comment: Sub-Component STEM RING Comment: Sub-Component RING Stem 3.0 D29681 4.0 D29685 LARGE FABRICATION RESOURCE 1 5.0 LARGE FAB 1 Comment: LARGE FABRICATION RESOURCE 1 Weld D2968-1 & D2968-5 as per Dwg D2968 & QSI 004 using 4130 welding rod Identify as D2968-041 WELD INSPECTION QC5/9 6.0 **Comment: WELD INSPECTION PURCHASING** 7.0 PG **Comment: PURCHASING** Issue P/O: Description: D2968-041 to heat treat to ultimate tensile strength 125ksi as per Dwg D2968

Conformity sheet required

Issue P/O: _ Cad Plate per QQ-P-416F Class I Type II

Monday, 11/14/2005 7:52:08 AM

User:

Linda Lacelle

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: TOW RING

Job Number: 23761

Part Number: D2968041

Job Number:



Seq. #:

Machine Or Operation:

Description:

Conformity sheet required

8.0

PACKAGING 1

PACKAGING RESOURCE #1



Receive & Inspect For Transit Damage Ensure certificate of confomity is attached

9.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT CAD PLATE

10.0

POWDER COATING

POWDER COATING



Comment: POWDER COATING

Powder Coat White Gloss (Ref: 4.3.5.2) as per QSI 005 4.3

DO NOT POWDER COAT THREADS

11.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT

12.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location:__

13.0

DC

DOCUMENT CONTROL



Comment: DOCUMENT CONTROL

Inspection Level 21

Job Completion



Monday, 11/14/2005 7:52:11 AM

User:

Linda Lacelle

Process Sheet

Customer Job Number

: CU-DAR001 Dart Helicopters Services

Estimate Number

: 23761A : 10394

P.O. Number

This Issue

Prsht Rev.

First Issue

Previous Run

: 11/14/2005

: NC

: 11

S.O. No. :

Туре : MACHINED PARTS Part Number

Drawing Name

: D29681

: STEM

Drawing Number

Project Number

· D2968 UNDER REVIEW

Drawing Revision

: B1

Material **Due Date**

: 11/30/2005

Qty:

40 Um:

Each

Checked & Approved By

Comment

Written By

: Est:C 03.04.11

Reformat: Incorporated D2968-1/-5 KJ/RF

Additional Product

Job Number:



Seq. #:

Machine Or Operation:

Description:

1.0 2.0

M4130NR0750 HARDINGE

4130 steel rod .750" HARDINGE CNC LATHE SMALL



Comment: HARDINGE CNC LATHE SMALL

1-Turn Blank as per Folio FA047 and Dwg D2968

2-Deburr, no sharp edges

3.0

QC2

INSPECT PARTS AS THEY COME OFF MACHINE







Comment: INSPECT PARTS AS THEY COME OFF MACHINE

4.0

HAAS1

HAAS CNC VERTICAL MACHINING #1





Comment: HAAS CNC VERTICAL MACHINING #1

1- Machine as per Folio FA047 and Dwg D2968

2- Deburr

QC2 5.0

INSPECT PARTS AS THEY COME OFF MACHINE





Comment: INSPECT PARTS AS THEY COME OFF MACHINE

6.0

QC8

SECOND CHECK





Comment: SECOND CHECK

7.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location:

Monday, 11/14/2005 7:52:12 AM

User:

Linda Lacelle

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: STEM

Job Number: 23761A

Part Number: D29681

Job Number:



Seq. #:

Machine Or Operation:

Description:

8.0

DC

DOCUMENT CONTROL

Comment: DOCUMENT CONTROL

Inspection Level 21

Job Completion



Date: User: Monday, 11/14/2005 7:52:14 AM

Linda Lacelle

Process Sheet

Customer Job Number : CU-DAR001 Dart Helicopters Services

: 23761B : 10395

Estimate Number

P.O. Number

: 11/14/2005 This Issue Prsht Rev.

: NC

: 11

Type

S.O. No. :

: MACHINED PARTS

Part Number

Drawing Name

: D29685

: RING

Drawing Number

: D2968 UNDER REVIEW

Project Number

Drawing Revision

: B1

Material

Due Date

: 11/30/2005

Qty:

40 Um:

Each

Written By Checked & Approved By

Comment

Previous Run

First Issue

: Est:C 03.04.11

Reformat; Incorporated D2968-1/-5 KJ/RF

Additional Product

Job Number:



Seq. #:

Machine Or Operation:

Description:

1.0 2.0 M4130NT3000W500 MORI SEIKI

MORI SEIKI CNC LATHE LARGE

4130 Tube 3"ODx.5"W

Comment: MORI SEIKI LATHE

1-Turn Blank as per Folio FA049 and Dwg D2968

2-Deburr, no sharp edges

3.0

QC2

INSPECT PARTS AS THEY COME OFF MACHINE



Comment: INSPECT PARTS AS THEY COME OFF MACHINE

4.0

QC8

SECOND CHECK

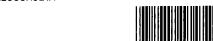


Comment: SECOND CHECK

5.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location:

6.0

DC

DOCUMENT CONTROL



Comment: DOCUMENT CONTROL

Inspection Level 21

Job Completion



Job Costing Report

Nov 08, 2005 10:36 am

: 0023761	
: D2968-041	Department Code:
: WK532	Burden Flags : NNNNNNN
: Main	WO Status : Open
	: D2968-041 : WK532

Dart Aerospace Ltd.

Selling Cost :

Hawkesbury

Invoice State : Not Invoiced Main WO Number House Part Number : D2968-041 Invoice Date :

Invoice Number : Description : Tow Ring

0.00 Manufactured : Yes Invoice Amount : Amount Req'd: 40

Amount Done : 0
Start Date : 07-05-05 Order Entry No :

Start Date OE Value : 0.00

Est Finish Date : 08-15-05 Est Margin : 0.000% Act Finish Date :

: No Actual Margin : 0.000% Drawings Reqd Ok for Approval : \$0 Posted to Finished Goods Approval Rec'd :

		Estimated		Actual	Var.	ે	Posted	To Post	
	====		===:	=======	======		=======	=========	===
Material Cost	:	0.00		300.00	100.0		0.00	300.00	
Engineering Hours	:	0.00		0.00	0.0	0			
Engineering Cost	:	0.00		.000	0.0	0	0.00	0.00	
Production Hours	:	0.00							
Production Cost	:	0.00		1	<u>(</u>		0.00	652.98	
Packaging Hours	:	0.00		\	+W				
Packaging Cost		0.00		2220) 1	•	0.00	0.00	
OverHead Hours	:	0.00		160-16	ouplete	<i>∞</i> ∽	0.00	0.00	
OverHead Cost	:	0.00		170	ontain		0.00	0.00	
	•		- 1		1		0.00	0.00	
CNC Hours	:	0.00	- 1	V	٠ (
CNC	:	0.00		M(5 +1	こひと)		0.00	0.00	
Misc. Hours	:	0.00	í	,					
Misc.	:	0.00		0.00	0.0	0	0.00	0.00	
		========	==:		=====	=			
Burden	:	0.00		0.00	0.0	0			
			==:		=====	<u> </u>			
Total Cost	:	0.00		952.98	100.0	0			
Margin	•	0.000		0.000		•			
Colline Cost	•	0.000		052.00					

Estimated Actual Labour Hrs/Amount Done : 0.00 0.00 Profits/(Loss) : 0.00 (-952.98)

0.00

Mis of b

Page 1

952.98